



Hailsham Community College - Secondary

Maths Curriculum





Addition and Subtraction Curriculum Roadmap



Key Stage 3

Y6 - Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

Y6 - use their knowledge of the order of operations to carry out calculations involving the four operations

Y6 - Know how to add and subtract.

Y6 - Know the order of operations.

Y3 - Know how to add and subtract.

Key Stage 2 – Year 6

Y6 - Know how to add and subtract.

Y6 - Perform mental calculations, including with mixed operations and large numbers

Y3 - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Y5 - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Y5 - add and subtract whole numbers with more than 4 digits, including using formal written methods

Y5 - add and subtract numbers mentally with increasingly large numbers

Y5 - Know how to round and place value.

Y3 - Place value and addition and subtraction.

Y5 - Know how to add and subtract.

Keystage 2 – Year 5



Addition and Subtraction Curriculum Roadmap



Upper Key Stage 2

Y4 - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Y3 - estimate the answer to a calculation and use inverse operations to check answers

Y4 - Know how to add and subtract.

Y3 - Place value and how to add and subtract.

Key Stage 2 – Year 4

Y3 - Place value and how to add and subtract.

Y3 - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Y3 - estimate the answer to a calculation and use inverse operations to check answers

Y3 - add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.

Y3 - Add and subtract numbers mentally, including 3 digit numbers.

Y3 - Know how to use the inverse operations.

Y3 - Place value and addition and subtraction.

Y3 - Place value and addition and subtraction.

Keystage 2 – Year 3



Addition and Subtraction Curriculum Roadmap



Lower Key Stage 2

Y2 - Solve problems with addition and subtraction

Y2 - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

Y2 - add and subtract numbers using concrete objects, pictorial representations, and mentally, including 2 digit numbers.

Y2 - Know how to add and subtract.

Y2 - Know the commutative law.

Y2 - Know how to add and subtract within 20.

Y2 - Know how to add and subtract within 20.

Y2 - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

Key Stage 1 – Year 2

Y1 - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square + 9$

Y1 - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs

Y1 - Add and subtract one digit and two-digit numbers to 20, including zero.

Y1 - represent and use number bonds and related subtraction facts within 20

Y1 - Know how to add and subtract within 20.

Y1 - Know the symbols +, -, =

Y1 - Know how to add and subtract within 20.

Y1 - Know how to add and subtract within 20.

Keystage 1 – Year 1



Addition and Subtraction Curriculum Roadmap



Key Stage 1

Rec - Know some number bonds to 10.

Rec - Know number bonds for numbers 0-5.

Rec - Explore composition of numbers to 10.

Rec - Understand that numbers are made of two smaller numbers added together.

Rec - Understand that numbers are made of two smaller numbers added together.

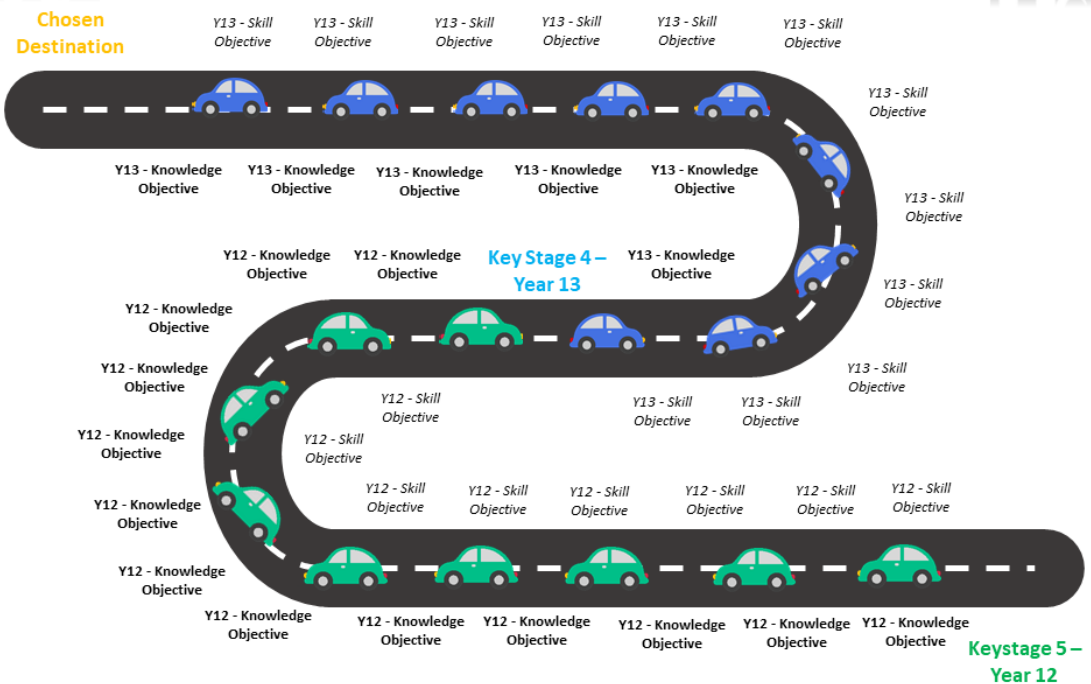
Rec - Understand that numbers are made of two smaller numbers added together.

EYFS - Reception

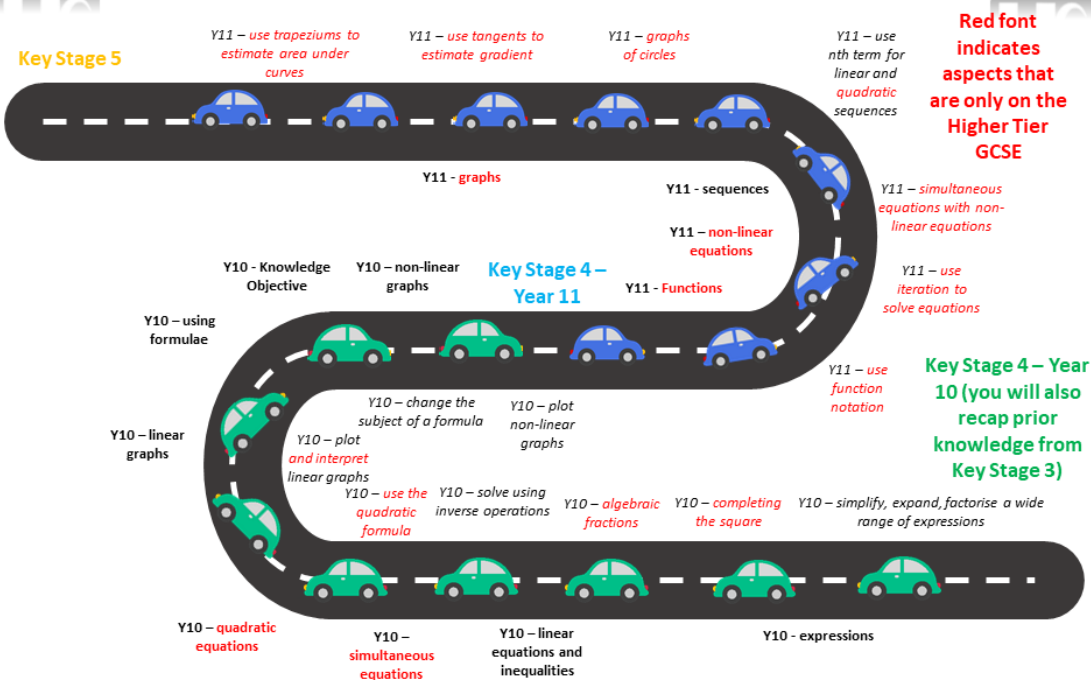
EYFS – Three to Four

EYFS - Birth to Three

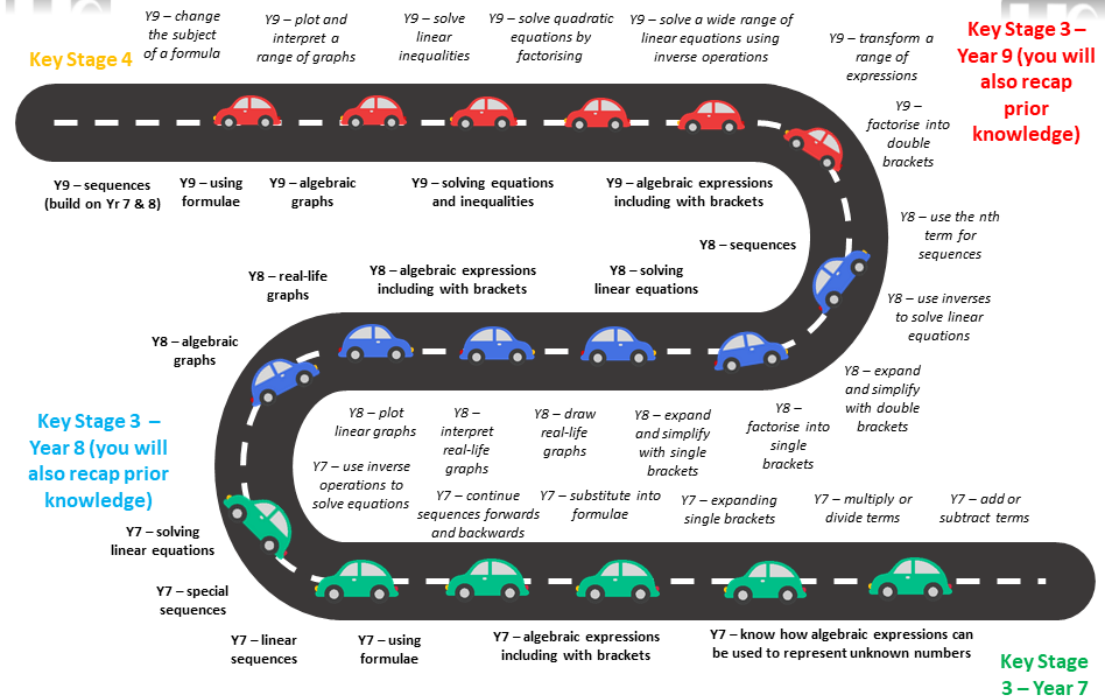
Algebra Curriculum Roadmap



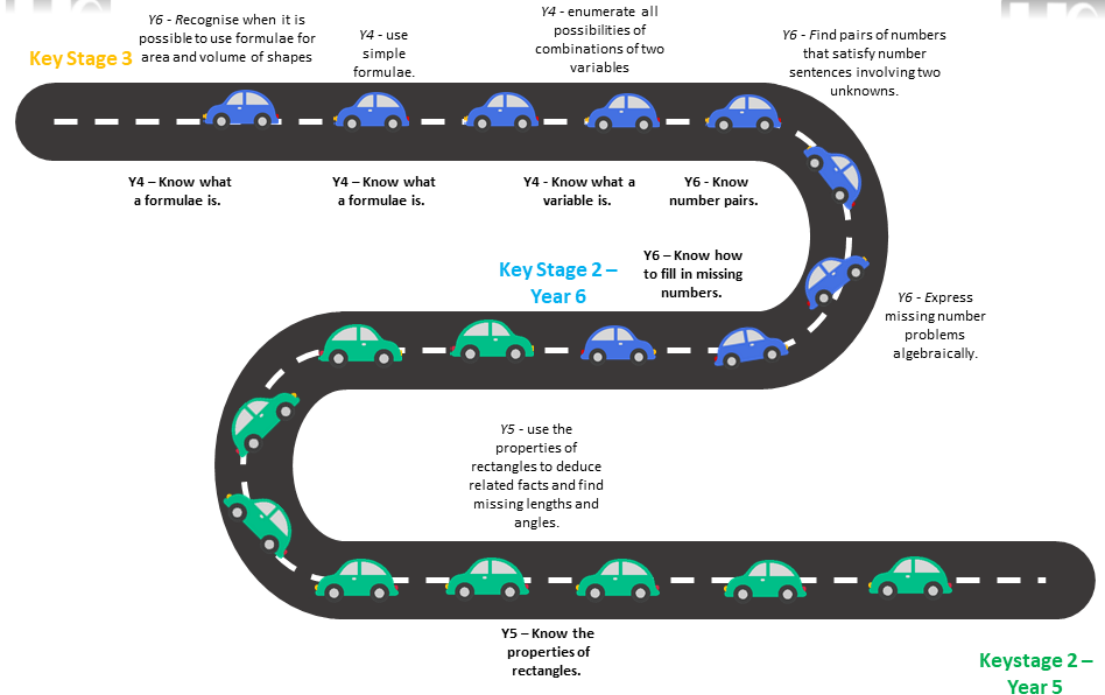
Algebra Curriculum Roadmap



Algebra Curriculum Roadmap

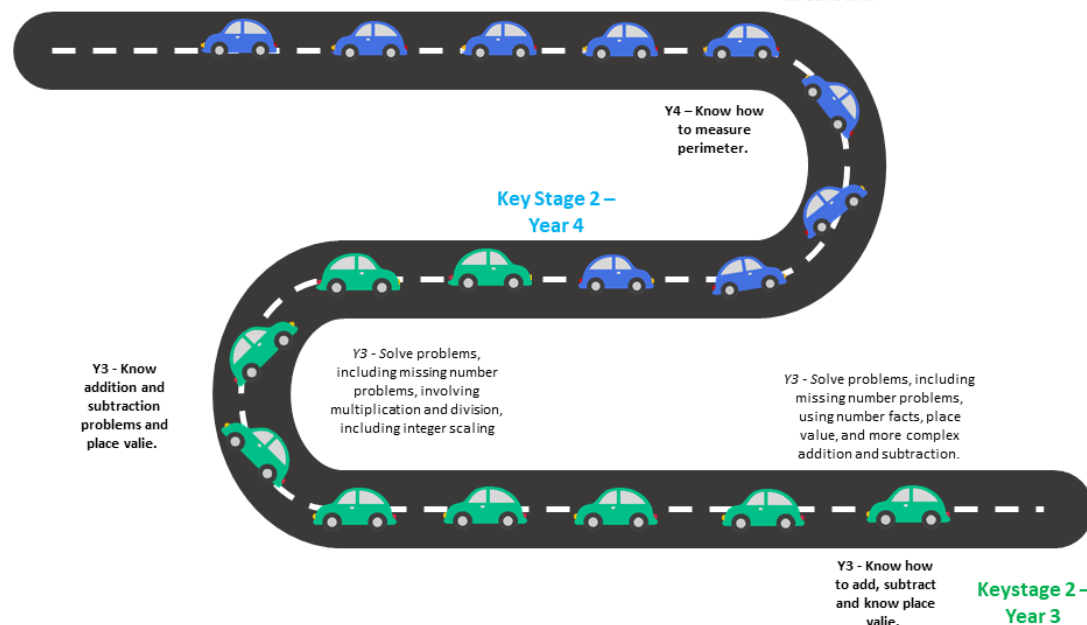


Algebra Curriculum Roadmap



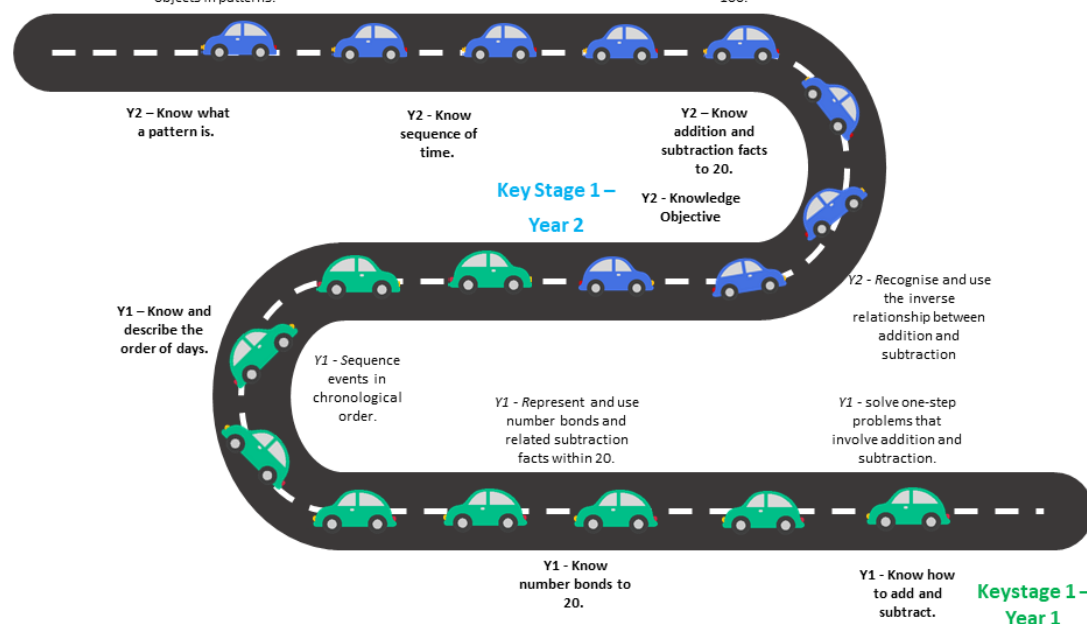
Algebra Curriculum Roadmap

Upper Key
Stage 2



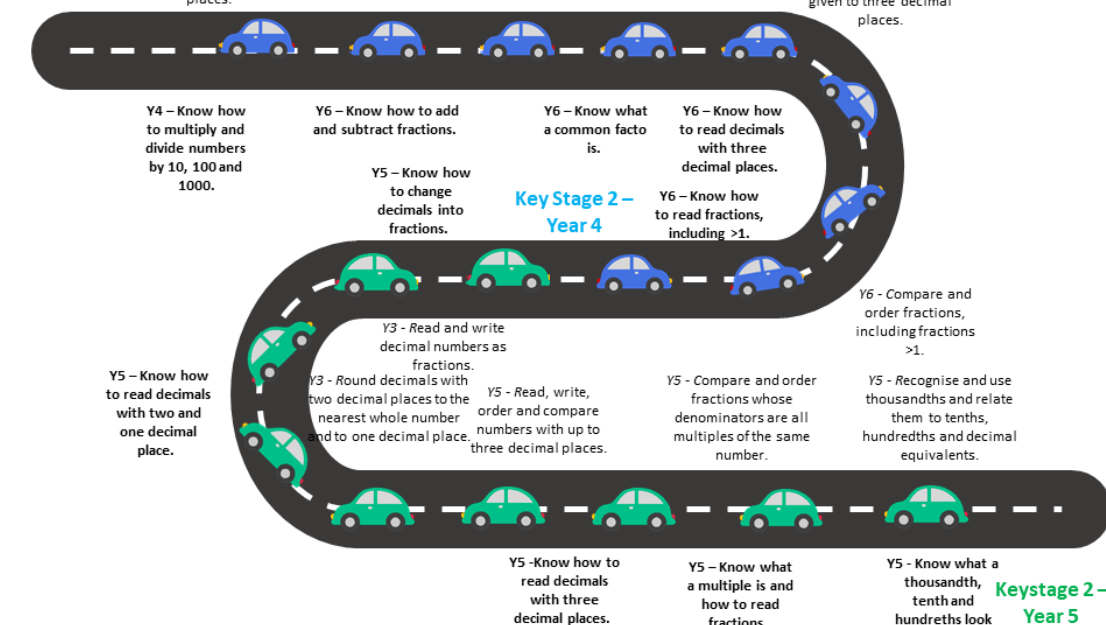
Algebra Curriculum Roadmap

Lower Key
Stage 2



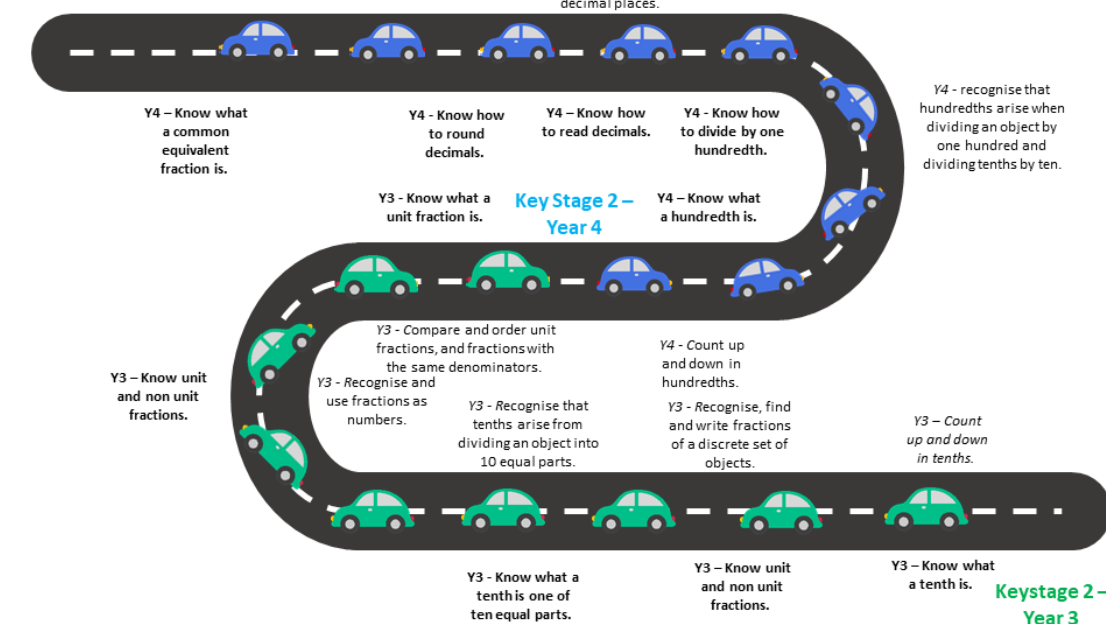
Fractions Curriculum Roadmap

Key Stage 3



Fractions Curriculum Roadmap

Upper Key
Stage 2



Fractions Curriculum Roadmap

Lower Key Stage 2

Y2 - Write simple fractions.

Y2 - Recognise $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$.

Y2 - Recognise and know what simple fractions are.

Y2 - Know what $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ is.

Key Stage 1 – Year 2

Y2 - Know how to count in fractions.

Y1 - Know that a quarter is one of four equal parts.

Y1 - Find a quarter.

Y2 - Count in fractions up to 10.

Y1 - Find a half.

Y1 - Know that a half is one of two equal parts.

Keystage 1 – Year 1

Fractions Curriculum Roadmap

Key Stage 3

Y6 - Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.

Y6 - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

Y4 - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Y6 - Identify the value of each digit in numbers given to three decimal places.

Y4 - Know how to multiply and divide numbers by 10, 100 and 1000.

Y6 - Know how to add and subtract fractions.

Y5 - Know how to change decimals into fractions.

Key Stage 2 – Year 4

Y6 - Know how to read fractions, including >1 .

Y5 - Know how to read decimals with two and one decimal place.

Y3 - Read and write decimal numbers as fractions.

Y3 - Round decimals with two decimal places to the nearest whole number and to one decimal place.

Y5 - Read, write, order and compare numbers with up to three decimal places.

Y5 - Compare and order fractions whose denominators are all multiples of the same number.

Y6 - Compare and order fractions, including fractions >1 .

Y5 - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

Y5 - Know how to read decimals with three decimal places.

Y5 - Know what a multiple is and how to read fractions.

Y5 - Know what a thousandth, tenth and hundredths look like.

Keystage 2 – Year 5

Fractions Curriculum Roadmap

Upper Key Stage 2

Y4 - Recognise and show, using diagrams, families of common equivalent fractions.

Y4 - round decimals, with one decimal place to the nearest whole number.

Y4 - Compare numbers with the same number of decimal places up to two decimal places.

Y4 - Know what a common equivalent fraction is.

Y4 - Know how to round decimals.

Y4 - Know how to read decimals.

Y4 - Know how to divide by one hundredth.

Key Stage 2 – Year 4

Y3 - Know what a unit fraction is.

Y4 - Know what a hundredth is.

Y3 - Compare and order unit fractions, and fractions with the same denominators.

Y3 - Recognise and use fractions as numbers.

Y3 - Recognise that tenths arise from dividing an object into 10 equal parts.

Y4 - Count up and down in hundredths.

Y3 - Recognise, find and write fractions of a discrete set of objects.

Y4 - recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Y3 - Count up and down in tenths.

Y3 - Know what a tenth is one of ten equal parts.

Y3 - Know unit and non unit fractions.

Y3 - Know what a tenth is.

Keystage 2 – Year 3

Fractions Curriculum Roadmap

Lower Key Stage 2

Y2 - Write simple fractions.

Y2 - Recognise $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$.

Y2 - Recognise and know what simple fractions are.

Y2 - Know what $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ is.

Y2 - Know how to count in fractions.

Key Stage 1 – Year 2

Y1 - Know that a quarter is one of four equal parts.

Y1 - Find a quarter.

Y2 - Count in fractions up to 10.

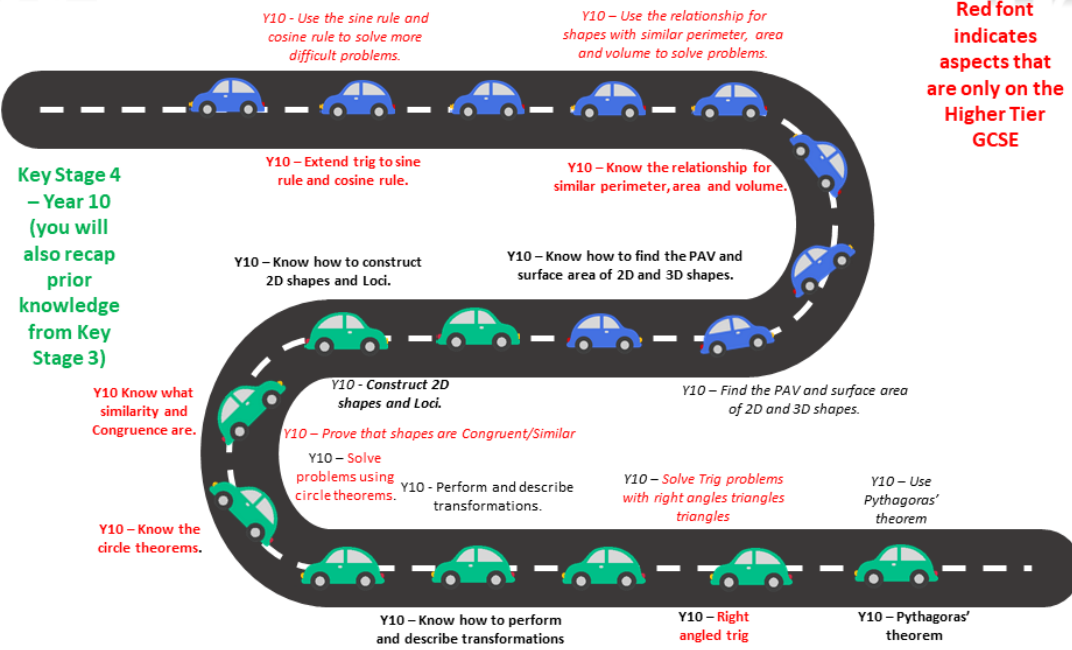
Y1 - Find a half.

Y1 - Know that a half is one of two equal parts.

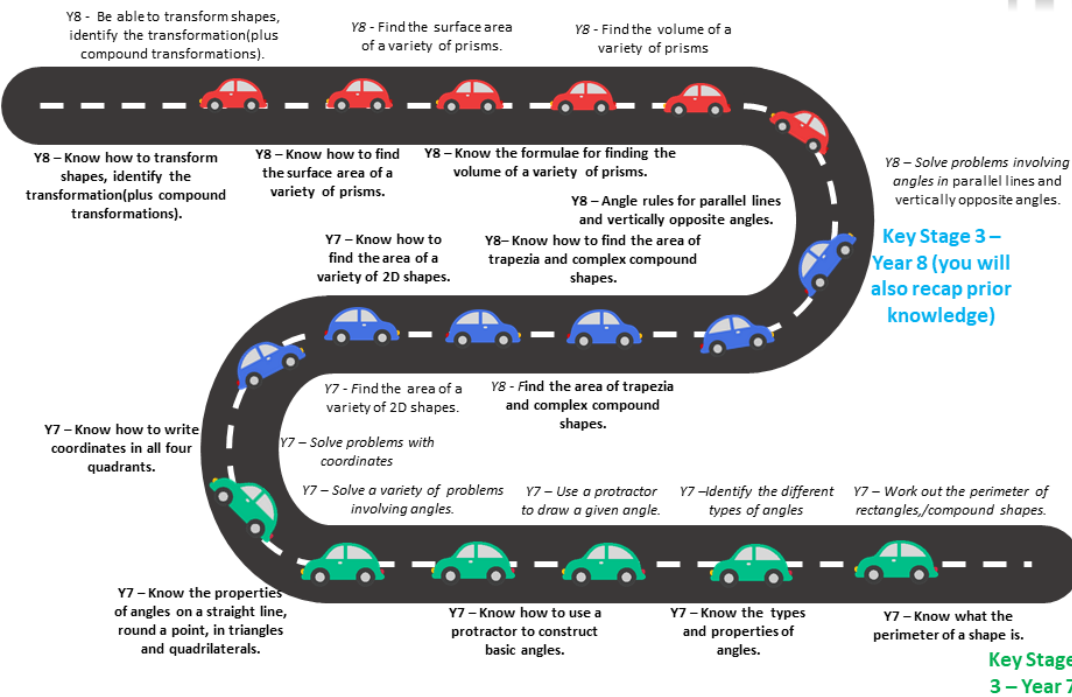
Keystage 1 – Year 1



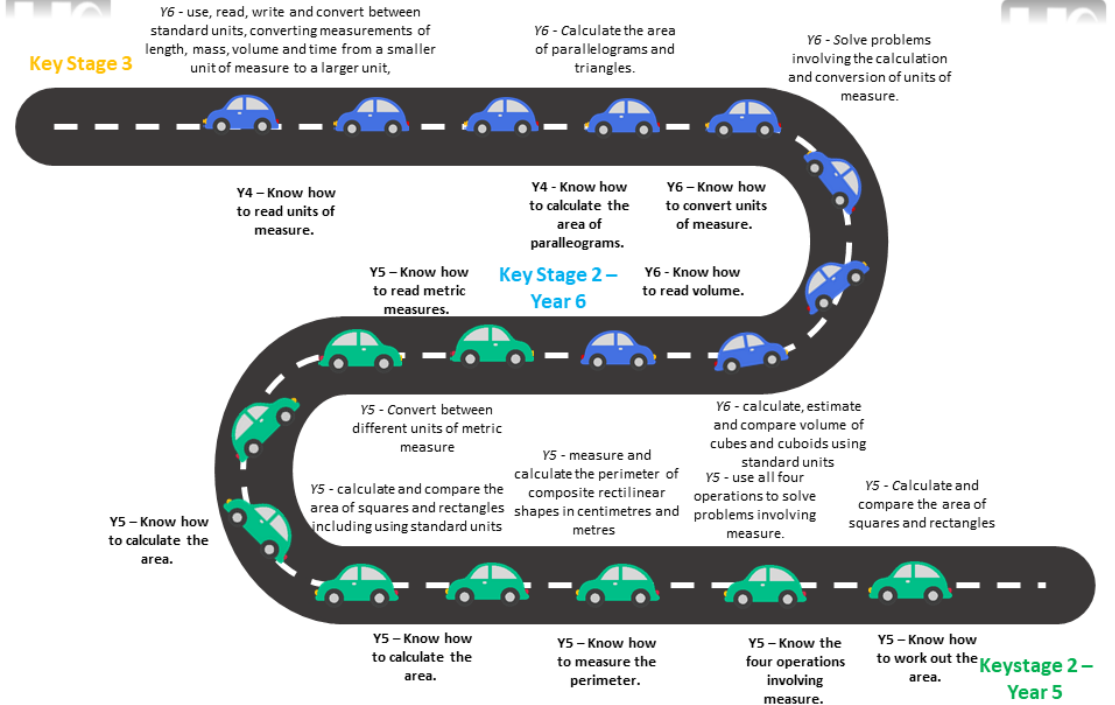
Geometry Curriculum Roadmap



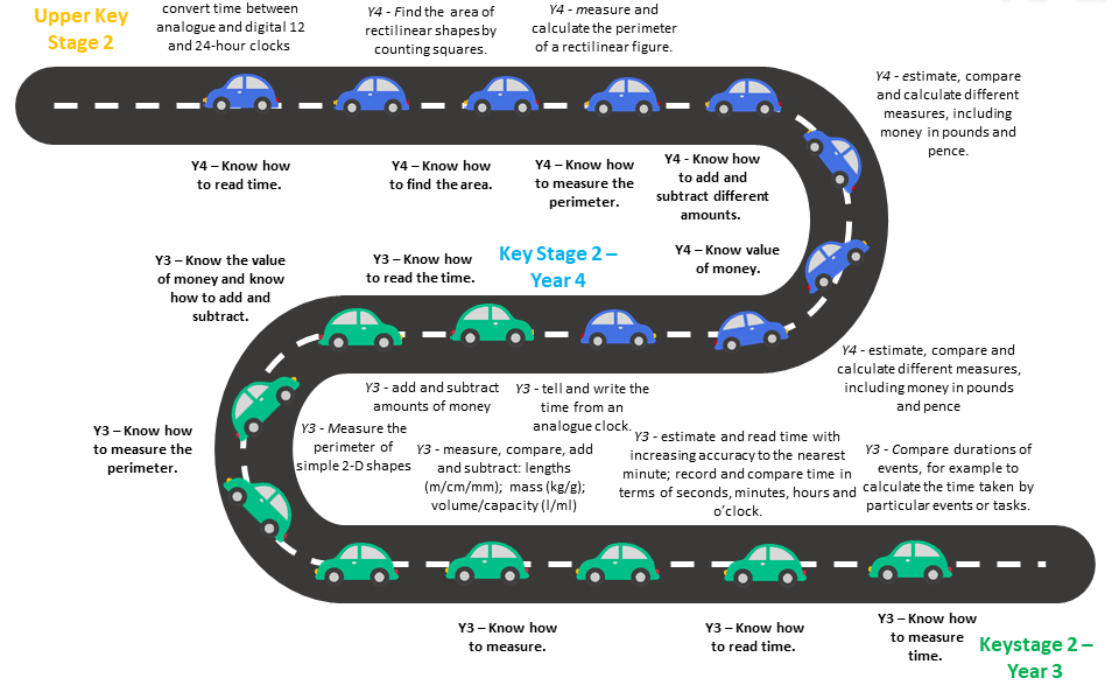
Geometry Curriculum Roadmap



Measurement Curriculum Roadmap



Measurement Curriculum Roadmap





Measurement Curriculum Roadmap



Lower Key Stage 2

Y2 - Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.

Y2 - Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.

Y2 - Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit.

Y2 - Compare and sequence intervals of time.

Y2 - Know how to tell and read the time.

Y2 - Know the value of money.

Y2 - Know how to measure and estimate measures.

Y2 - Know how to measure time.

Y1 - Know what a quarter and a half is.

Key Stage 1 – Year 2

Y2 - Know how to read lengths, mass and capacity measures.

Y1 - Know some values of money.

Y1 - Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
Y1 - Recognise and know the value of different denominations of coins and notes.
Y1 - Measure and record length, height, weight and capacity.

Y2 - Compare and order lengths, mass, volume/capacity and record the results using < and =.
Y1 - compare, describe and solve practical problems for length and height, mass, capacity and time.
Y1 - sequence events in chronological order.

Y1 - Know what comes before and next in a typical day.

Y1 - Know how to compare different measures.

Keystage 1 – Year 1



Measurement Curriculum Roadmap



Key Stage 1

Rec - Begin to experience specific time durations.

Rec - Begin to use time to sequence events.

Rec - Beginning to use units to compare things.

Rec - Show awareness of comparison when estimating.

Rec - Know what we could use to measure time.

Rec - Know what comes next in a typical day.

Rec - Know the meaning of more and less.

Rec - Know the meaning of estimating.

Rec - Know the meaning of more and less.

Rec - Compare amounts of quantities.

EYFS - Reception

3/4 - Know what heavier/lighter/longer/shorter means.

3/4 - Know what comes next in a typical day.

3/4 - Recalls a sequence of events in everyday life and stories.

EYFS – Three to Four

3/4 - Find what is longer/shorter, heavier/lighter.

B/3 - Begin to anticipate times of the day like lunch time.

B/3 - Begin to understand some talk about immediate past and future.

B/3 - Explores differences in sizes.

B/3 - Know what comes next in a typical day.

B/3 - Know the meaning of past and future.

B/3 - Know that objects are different sizes.

EYFS - Birth to Three



Multiplication & Division Curriculum Roadmap



Key Stage 3

Y6 - Identify common factors, common multiples and prime numbers.

Y6 - Divide numbers up to 4 digits in long or short written method.

Y6 - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

Y4 - Know common factors and multiples.

Y6 - Know how to multiply and divide.

Y6 - Know decimal fractions.

Y6 - Associate a fraction with division and calculate decimal fraction equivalents.

Y5 - Know how to write multiplication and division sums.

Key Stage 2 – Year 6

Y6 - Know mixed operations and large numbers.

Y5 - Know how to write multiplication and division sums.

Y5 - Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method.

Y5 - Divide numbers up to 4 digits by a one-digit number using the formal written method.

Y5 - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Y5 - Multiply and divide numbers mentally drawing upon known facts.

Y6 - Perform mental calculations, including with mixed operations and large numbers.

Y5 - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.

Y5 - Know how to multiply and divide.

Y5 - Know how to multiply and divide.

Y5 - Know the power of ten.

Keystage 2 – Year 5



Multiplication & Division Curriculum Roadmap



Upper Key Stage 2

Y4 - multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

Y4 - Recognise and use factor pairs and commutativity in mental calculations.

Y4 - Use place value, known and derived facts to multiply and divide mentally.

Y4 - Recall multiplication and division facts for multiplication tables up to 12 x 12.

Y4 - Know how to write multiplication sums.

Y3 - Know that multiplication sums can be multiplied with either number.

Y4 - Know factor pairs and commutativity.

Y4 - Know place value, how to multiply and divide.

Y4 - Know how to multiply.

Y4 - Count in multiples of 2, 5 and 10.

Y3 - estimate the answer to a calculation and use inverse operations to check answers.

Y3 - write and calculate mathematical statements for multiplication and division.

Y4 - Count in multiples of 6, 7, 9, 25 and 1 000.

Y3 - recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Y3 - Count from 0 in multiples of 4, 8, 50 and 100.

Y3 - Know the multiplication and division symbols.

Y3 - Know how to multiply and divide.

Y3 - Count in 2's, 5's and 10's.

Keystage 2 – Year 3



Multiplication & Division Curriculum Roadmap



Lower Key Stage 2

Y2 - calculate mathematical statements for multiplication and division and write them.

Y2 - show that multiplication of two numbers can be done in any order and division cannot.

Y2 - recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.

Y2 - Multiply, divide and know the symbols for these.

Y2 - Know how to multiply and divide.

Y2 - Count in 2's, 5's and 10's.

Key Stage 1 – Year 2

Y2 - Count in 2's, 5's and 10's.

Y1 - Count in order from 1-100.

Y1 - count in multiples of twos, fives and tens

Y2 - Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward

Keystage 1 – Year 1



Ratio and Proportion Curriculum Roadmap



Keystage 5

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Knowledge Objective

Y11 - Knowledge Objective

Y11 - Knowledge Objective

Y11 - Knowledge Objective

Y11 - Knowledge Objective

Y11 - Skill Objective

Y11 - Skill Objective

Key Stage 4 – Year 11

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y11 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y10 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y11 - Skill Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Y10 - Knowledge Objective

Keystage 4 – Year 10



Ratio and Proportion Curriculum Roadmap



Key Stage 4

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Skill Objective

Y9 - Knowledge Objective

Y9 - Knowledge Objective

Y9 - Knowledge Objective

Y9 - Knowledge Objective

Y9 - Knowledge Objective

Keystage 4 – Year 9

Y8 - Knowledge Objective

Y8 - Knowledge Objective

Y8 - Knowledge Objective

Y8 - Knowledge Objective

Y8 - Skill Objective

Keystage 4 – Year 8

Y8 - Knowledge Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Y8 - Skill Objective

Y8 - Skill Objective

Y8 - Skill Objective

Y8 - Skill Objective

Y8 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Skill Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Y7 - Knowledge Objective

Keystage 3 – Year 7



Ratio and Proportion Curriculum Roadmap



Key Stage 3

Y6 - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Y6 - solve problems involving similar shapes where the scale factor is known or can be found .

Y6 - Solve problems involving the calculation of percentages.

Y6 - Know what unequal sharing and grouping is. Know what a fraction is.

Y6 - Know different shapes and how to work out scale factor.

Y6 - Know how to calculate percentages.

Y4 - Know how to work out missing values.

Y6 - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.

Key Stage 2 – Year 6

Keystage 2 – Year 5



Statistics & Probability Curriculum Roadmap



Chosen
Destination

Y13 – carry out hypothesis tests
Y13 – use Normal distribution in problem-solving
Y13 – use Normal distribution for probability
Y13 – use probability formulae

Y13 – hypothesis testing (correlation)
Y13 – hypothesis testing (Normal)
Y13 – Normal distribution
Y13 – conditional probability
Y13 – Venn diagrams & set notation

Y12 – Binomial distributions
Y12 – hypothesis testing (binomial)
Key Stage 5 – Year 13
Y13 – regression & correlation

Y12 – discrete uniform distributions
Y12 – Venn diagrams & set notation
Y12 – sampling techniques

Y12 – use Binomial distribution for probability
Y12 – calculate theoretical probabilities
Y12 – comment on sampling techniques
Y12 – carry out hypothesis tests
Y12 – calculator skills
Y12 – analyse and compare data sets

Y12 – box plots
Y12 – scatter graphs
Y12 – averages and standard deviation
Y12 – understand and use the large data set for Edexcel

Key Stage 5 – Year 12



Statistics & Probability Curriculum Roadmap



Key Stage 5

Y11 – recap all prior skills (topics identified as gaps after mock exams)

Y11 – recap all prior knowledge (topics identified as gaps after mock exams)

Y10 – Venn diagrams
Key Stage 4 – Year 11

Y10 – conditional probabilities

Y10 – probability trees

Y10 – recap prior knowledge of probability

Y10 – solve problems involving more than one event
Y10 – calculate theoretical probability

Y10 – compare sets of data

Y10 – calculate statistics for any size of data set

Y10 – interpret a range of data charts

Y10 – draw a range of data charts

Y10 – histograms

Y10 – box plots

Y10 – cumulative frequency graphs

Y10 – frequency polygons

Y10 – recap prior knowledge

Key Stage 4 – Year 10 (you will also recap prior knowledge from Key Stage 3)

Red font indicates aspects that are only on the Higher Tier GCSE



Statistics & Probability Curriculum Roadmap



Key Stage 3

Y6 – Calculate and interpret the mean as an average.

Y6 – Know how to work out the mean.

Y6 – Know how to read a pie chart and line graph.

Y6 – Interpret and construct pie charts and line graphs and use these to solve problems

Y5 – Know how to read a line graph.

Key Stage 2 – Year 6

Y5 – Solve comparison, sum and difference problems using information presented in a line graph

Y5 – complete, read and interpret information in tables, including timetables.

Y5 – Know how to read data.

Keystage 2 – Year 5



Statistics & Probability Curriculum Roadmap



Upper Key Stage 2

Y4 – Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Y4 – Know how to compare data.

Y4 – Know how to read data.

Y4 – Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs

Key Stage 2 – Year 4

Y3 – Good understanding of questions. Know what a bar chart, pictogram and table is.

Y3 – solve one-step and two step questions using information presented in scaled bar charts and pictograms and tables.

Y3 – Interpret and present data using bar charts, pictograms and tables

Y3 – Know what a bar chart is. Know what a pictogram and tables are.

Keystage 2 – Year 3



Statistics & Probability Curriculum Roadmap



Key Stage 4

Y9 - Skill
Objective

Y9 - Skill
Objective

Y9 - Skill
Objective

Y9 - Skill
Objective

Y9 - Skill
Objective

Y9 - Skill
Objective

**Key Stage 3 –
Year 9**
(you will also
recap prior
knowledge)

Y9 - Knowledge
Objective

Y9 - Knowledge
Objective

Y9 - Knowledge
Objective

Y9 - Knowledge
Objective

Y9 - Knowledge
Objective

Y8 – averages
from a data chart

Y8 – averages
from a table

Y8 – mean, median,
mode range

**Key Stage 3 –
Year 8**
(you will also
recap prior
knowledge)

Y8 – probability
language & scale

Y8 – probability
from charts

Y8 – pie charts

Y8 – scatter
graphs

Y8 – interpret a range
of data graphs

Y8 – compare large
sets of data

Y8 – calculate
theoretical probability

Y8 – draw a range of
data graphs

Y7 – compare
small sets of data

Y7 – calculate statistics
for small data sets

Y7 – interpret a range
of data graphs

Y7 – draw a range
of data graphs

Y7 – mean, median,
mode range

Y7 – stem-and-
leaf diagrams

Y7 – bar charts

Y7 – pictograms

**Keystage 3 –
Year 7**



Statistics & Probability Curriculum Roadmap



Lower Key Stage 2

Y2 - Ask and answer
questions about
totalling and
comparing
categorical data

Y2 - Ask and answer
simple questions by
counting the
number of objects
in each category.

Y2 - Know what a
question is.
Know how to
compare data.

Y2 - Know what a
question is.
Know how to
count.

**Key Stage 1 –
Year 2**

Y2 - Know what a
pictogram, tally
chart, block
diagram and
simple tables
are.

Y2 - Interpret and
construct simple
pictograms, tally
charts, block
diagrams and
simple tables

**Keystage 1 –
Year 1**

Mathematics Curriculum Intent:

To enable learners to master key skills and knowledge in order to confidently think and reason mathematically so that they can solve a wide range of problems; to successfully apply their knowledge in their personal and professional lives.



Assessment and feedback policy Hailsham Community College MATHS

SLT responsible:	ML
Proposed	
Ratified by Governors:	n/a

The key principles of assessment and feedback at HCC

- Assessment will happen when determined by the **curriculum**.
- **Formative** assessment should take place **frequently**.
- Assessment will inform teachers and students of **gaps in knowledge** and/or **skills**.
- Assessment will inform **actions** that take place to close gaps in student's knowledge and/or skills.
- All feedback will be **timely and informative**
- **Summative assessment** will provide a benchmark against which progress and achievement can be measured. At KS4 and 5 this will be against nationally recognised benchmarks eg GCSE or A-level grades. At KS3, in the absence of external benchmarks this will be against start points and internal data.
- **Summative assessment** will be reported 3 times per year.
- **College reports** should enable parents and carers to understand their son/daughter's progress over time.
- Full details of the assessment and feedback process will be mapped in each department
 - **What** powerful knowledge/ key skills is/are being assessed
 - **How** assessment takes place
 - **When** assessment takes place
 - **Feedback** given
 - **Actions resulting** for teachers
 - **Actions resulting** for students

Directors of Learning will:

- Ensure that departmental assessment and feedback maps follow the **key principles of assessment at HCC** detailed above and provide clear guidelines for teachers within the team;
- Ensure that teachers assess learners work and learning in accordance with the department assessment map
- Ensure that teachers keep accurate records of assessments to ensure that all learners make progress.
- Ensure that teachers give feedback in line with the key principles of assessment at HCC above.

Teachers will :

- Assess learners work and learning in accordance with the department assessment map
- Keep accurate records of assessments to ensure that all learners make progress.
- Give feedback in line with the key principles of assessment at HCC above.

Monitoring of the assessment cycle

Monitoring and sampling of the assessment cycle is in place to quality assure the process at all levels. Most importantly this will support a continual process of reflection and self-improvement in all colleagues professional practice

Sampling of summative assessments and evidence of feedback? When? By who?

Learning walks to evidence and improve feedback from summative assessments and actions resulting. When and by who?

Learning walks to evidence and improve ongoing formative assessment. When and by who

Overview of assessment and reporting cycle:

The time of assessment will be guided by the curriculum. The following is a guide to when such assessment is reported. There may be some departmental variation in the 'informed by' column, full details are in all department assessment maps.

Date	Assessment point	Informed by
Friday 22 nd October	Year 7 APA	Summative assessment of curriculum knowledge/skills term 1 End of Term 1 Review Test
Friday 12 th November	Year 11 and 13 APA	Year 11 Mock 1 (plus classroom based assessment) Year 13 Summative and classroom based assessment of curriculum knowledge skills term 1.
Friday 19 th November	Year 9 APA	Summative assessment of curriculum knowledge/skills term 1 TA1 percentage score
Friday 3 rd December	Year 8 APA	Summative assessment of curriculum knowledge and skills term ½ End of Term 1 Review Test
Friday 14 th Jan	Year 10 and 12 APA	Year 10 mock 1 (class based) and classroom based assessment TA1 Grade Year 12 mock 1 (class based) and classroom based assessment
Friday 11 th Feb	Year 7 APB	Summative assessment of content terms 1+2/3 TA1 percentage score
Friday 4 th March	Year 11 and 13 APB	Year 11 Mock 2 (plus classroom based assessment) Year 13 Mock series 1 (plus classroom based assessment)
Friday 11 th March	Year 8 APB	Summative assessment of curriculum knowledge and skills term 1+2+3 TA1 percentage score
Friday 1 April	Year 9 APB	Summative assessment of curriculum knowledge and skills term 1+2+3/4 TA2 percentage score
Friday 29 April	Year 10 and 12 APB	Year 10 mock 2 (class based) plus classroom based assessment TA2 Grade Year 12 mock 2 (class based) plus classroom based assessment
Friday 13 th May	Year 11 and 13 final predictions	Final predicted grade based on cumulative knowledge of classroom based assessment over 10 and 11
Friday 27 th May	Year 7 APC	Summative assessment of curriculum knowledge and skills term 1+2+3+4/5 End of Term 4 percentage score
Friday 17 th June	Year 8 APC	Summative assessment of curriculum knowledge and skills term 1+2+3+4+5 End of Term 4 percentage score
Friday 24 th June	Year 9 APC	Summative assessment of curriculum knowledge and skills term 1+2+3+4+5 TA3 percentage score
Friday 1 st July	Year 10 and 12 APC	Year 10 coaching mocks plus classroom based assessment TA3 Grade Year 12 coaching mocks and classroom based assessment

Year 7	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	<div>Place Value</div> <div>Units of Measure</div> <div>Time</div> <div>Operations: add and subtract</div>	<div>Angle Facts</div> <div>Operations: multiply and divide</div> <div>Types of Number</div>	<div>Coordinates</div> <div>Data Graphs</div>	<div>Equivalence</div> <div>Fractions</div> <div>Expressions</div>	<div>Percentages (finish)</div> <div>Substitution</div> <div>Averages</div>	<div>Sequences</div> <div>Equations</div>
How (type of assessment)?	<p>For every term:</p> <p>Preview test – benchmark assessment to identify gaps. Review test – assesses if gaps have been filled. Each is approximately 20 questions of key skills.</p> <p>Each lesson starts with a retrieval task appropriate to the group's needs. The teacher also assesses the class by monitoring students' work in lessons.</p>					
When? (Weeks are the Scheme of Work weeks as per OneNote)	Preview – week 1 Review – week 7/8 Cumulative assessment is the Review	Preview – week 9 Review – week 15	Preview – week 16 Review – week 20 Cumulative assessment Week 18	Preview – week 21 Review – week 28	Preview – week 29 Review – week 36 Cumulative assessment Week 31	Preview – week 37 Review – week 40
What feedback is given?	<p>Preview test is self-marked. Review test marked by teacher and score provided to the students. Further discussion of correct methods may be included as appropriate.</p> <p>Cumulative assessments are marked by teacher and returned to student. As appropriate to the group's needs, the teacher may spend time looking at correcting questions with the whole class or with small groups.</p> <p>In lessons, teachers may use live whole-class and individual feedback. This may be verbal or written as appropriate.</p>					
What actions must take place for teachers?	<p>Preview test informs teacher planning for the term's units – what existing knowledge do the students have? What gaps need to be filled by the teaching of each unit of work?</p> <p>Review test informs Do Now and home learning for the following term to fill gaps and reinforce topics through retrieval practice. Where a gap exists for a topic which feeds into a new unit of work, the teacher needs to be aware and fill that gap before the next topic which needs it.</p> <p>Cumulative assessments inform retrieval tasks and home learning for the next term.</p> <p>The final cumulative assessment, combined with teacher knowledge of the students, informs the allocation of student groups for the following academic year.</p>					

	A QLA of the final assessment is stored centrally to inform the following year's teacher of weaker areas in the group's collective knowledge.					
What actions must take place for students ?	<p>Students engage with the learning in the lesson.</p> <p>They must complete home learning tasks to support gap filling.</p> <p>Where directed, students must engage in correcting their cumulative assessments.</p>					
When is this revisited?	Perimeter (part of add and subtract) is revisited in Fractions and Expressions	Area (part of multiply and divide) is revisited in Fractions and Expressions		Fractions may be revisited in Substitution as appropriate to the group.		
	All topics are revisited and built-on during Year 8 units of work.					

Year 8	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	Fractions Area and Perimeter Angle reasoning	Types of number. Averages Percentages Probability	Probability. Algebraic graphs. Indices. 3D Shapes part 1.	Ratio Expressions. Data Graphs.	Solving equations Sequences 3D shapes part 2	Scale Drawing. Proportion. Transformations.
How (type of assessment)?	<p>For every term:</p> <p>Preview test – benchmark assessment to identify gaps. Review test – assesses if gaps have been filled. Each is approximately 20 questions of key skills.</p> <p>Each lesson starts with a retrieval task appropriate to the group's needs.</p> <p>The teacher also assesses the class by monitoring students' work in lessons.</p>					
When?	Preview – week 1 Review – week 7/8 Cumulative assessment is the Review	Preview – week 8/9 Review – week 14	Preview – week 15 Review – week 20 Cumulative assessment Week 21	Preview – week 22 Review – week 28	Preview – week 29 Review – week 34/35 Cumulative assessment Week 33	Preview – week 36 Review – week 40
What feedback is given?	<p>Preview test is self-marked. Review test marked by teacher and score provided to the students. Further discussion of correct methods may be included as appropriate.</p> <p>Cumulative assessments are marked by teacher and returned to student. As appropriate to the group's needs, the teacher may spend time looking at correcting questions with the whole class or with small groups.</p> <p>In lessons, teachers may use live whole-class and individual feedback. This may be verbal or written as appropriate.</p>					
What actions must take place for teachers?	<p>Preview test informs teacher planning for the term's units – what existing knowledge do the students have? What gaps need to be filled by the teaching of each unit of work?</p> <p>Review test informs Do Now and home learning for the following term to fill gaps and reinforce topics through retrieval practice. Where a gap exists for a topic which feeds into a new unit of work, the teacher needs to be aware and fill that gap before the next topic which needs it.</p> <p>Cumulative assessments inform retrieval tasks and home learning for the next term.</p> <p>The final cumulative assessment, combined with teacher knowledge of the students, informs the allocation of student groups for the following academic year. A QLA of the final assessment is stored centrally to inform the following year's teacher of weaker areas in the group's collective knowledge.</p>					
What actions must take place for students?	<p>Students engage with the learning in the lesson. They must complete home learning tasks to support gap filling.</p> <p>Where directed, students must engage in correcting their cumulative assessments</p>					
When is this revisited?	Percentages Probability Ratio	Proportion Data Graphs	Solving equations transformations			Ratio

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NOTE: The below only applies to Year 9 until July 2022; a new assessment map will be implemented from September 2022 when the new curriculum rolls through.

Year 9	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	Year 7 & 8 knowledge plus averages and indices & roots	<div>PAV</div> <div>Expressions & Formulae (factorise quadratics for Higher)</div> <div>Transformations</div> <div>FDP (include recurring decimals for Higher)</div>	<div>Statistical Graphs</div> <div>Equations & Inequalities (Higher - quadratic equations by factorising)</div> <div>Ratio & Proportion</div>	All topics to date (Yr 7 and 8 and 9) in TA2. SoW covers: <div>Angles 1 (include bearings and angles in polygons)</div> <div>H/F - Pythagoras</div> <div>Higher - Trigonometry</div> <div>Linear and Quadratic Graphs</div>	<div>Probability</div> <div>FDPRP problem solving</div> <div>Sequences</div>	All topics to date in TA3. SoW covers: <div>Construction & Loci</div> <div>Angles</div> <div>Simultaneous Equations (for Higher only at this stage)</div>
How (type of assessment) ?	GCSE Foundation questions (two different papers)	No formal assessment, in class monitoring and home learning only.		GCSE Foundation questions (two different papers)	As Term 2/3	GCSE Foundation questions (two different papers)
When?	Week 6			Week 21		Week 33
What feedback is given?	Marks on each paper, % score on tracking, plus annotations as appropriate.	Verbal feedback in class, supported by written feedback as appropriate.		Marks on each paper, % score on tracking, plus annotations as appropriate.	As Term 2/3	Marks on each paper, % score on tracking, plus annotations as appropriate.
What actions must take place for teachers?	Note topics of knowledge gaps for home learning and Do Now. Whole class feedback on			Note topics of knowledge gaps for home learning and Do Now. Whole class feedback on key questions.		Note topics of knowledge gaps for home learning and Do Now. Whole class feedback on key questions.

	key questions.					
What actions must take place for students ?	Complete tasks set by teacher.			Complete tasks set by teacher.		Complete tasks set by teacher.
When is this revisited?	Throughout Year 9, 10 and 11					

Maths KS4 assessment map (Year 10)

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	Expressions Pythagoras & Trig Indices & Standard Form Averages	Statistical Graphs Equations & Inequalities 1 Transformations Ratio & Proportion FDP Problems	Angles Statistical Graphs Linear Graphs Surds, Indices, Roots	Constructions & Loci (Simultaneous) Equations	Number Revision Bounds Probability Perimeter, Area, Volume	Similar shapes Non-linear Graphs Trigonometry or Angles
How (type of assessment)?	Low stakes: Weekly Skills Checks from MathsBox Higher – HA sets; Top Foundation – FA sets; Foundation – FB sets Cumulative assessments are cut-down GCSE papers to provide an actual grade.					
When?		Week 13 – TA1 (2 papers)		Week 25 – TA2 (3 or 4 papers)		Week 33 – TA3 (full papers?)
What feedback is given?	Weekly Skills Checks – self-mark and record progress on record sheets in books. TA1/TA2/TA3 – score and grades and formative feedback as appropriate. In lessons, teachers may use live whole-class and individual feedback. This may be verbal or written as appropriate.					
What actions must take place for teachers?	Use all assessments to identify gaps and identify misconceptions. Use Do Now activities, home learning and revision lessons to address the above. TA3 – teacher completes a formal QLA which informs revision programme for the start of Year 11.					
What actions must take place for students ?	Students engage with the learning in the lesson. They must complete home learning tasks to support gap filling. Where directed, students must engage in correcting their cumulative assessments. Students have student-friendly QLA sheets after TA3 to inform their independent study.					
When is this revisited?	Foundation – all topics are revisited as needed in Year 11 Higher – for set 2, many topics will be reviewed in Year 11; for set 1 topics are built on to cover the rest of the curriculum in Year 11.					

Maths KS4 assessment map (Year 11)

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed? (FOUNDATION)	Vectors Revision based on Year 10 QLA	Sequences Compound Measures Algebraic Graphs Indices & Standard Form Equations & Inequalities	Revision based on Mock 1 QLA	Revision based on Mock 2 QLA	Revision based on Mock 2 QLA	N/A
What powerful knowledge is being assessed? (HIGHER SET 2)	Vectors Revision based on Year 10 QLA	Functions Graphs Iteration Quadratic Sequences Simultaneous Equations	Revision based on Mock 1 QLA	Revision based on Mock 2 QLA	Revision based on Mock 2 QLA	N/A
What powerful knowledge is being assessed? (HIGHER SET 1)	Vectors Revision based on Year 10 QLA	Functions Graphs (including trig) Iteration Quadratic Sequences Simultaneous Equations	Graphs of circles Gradient and area (non-linear graphs) Quadratic equations & inequalities	Revision based on Mock 2 QLA	Revision based on Mock 2 QLA	N/A
How (type of assessment)?	<p>Low stakes: Weekly Skills Checks from MathsBox Top Higher – HAA sets; Higher – HA sets; Foundation – FA sets; Nurture – FB sets</p> <p>Low stakes: MethodMaths papers weekly with scaffolding</p> <p>Cumulative assessments are full GCSE papers to provide an actual grade.</p>					
When?	Mock 1		Mock 2			
What feedback is given?	<p>Weekly Skills Checks – self-mark and record progress on record sheets in books.</p> <p>Mock 1 & Mock 2 – score and grades and formative feedback as appropriate.</p> <p>In lessons, teachers may use live whole-class and individual feedback. This may be verbal or written as appropriate.</p>					
What actions must take place for teachers?	<p>Use all assessments to identify gaps and identify misconceptions.</p> <p>Use Do Now activities, home learning and revision lessons to address the above.</p> <p>Mock 1 & Mock 2 – teacher completes a formal QLA which informs revision programme for the rest of Year 11.</p>					
What actions must take place for students?	<p>Students engage with the learning in the lesson.</p> <p>They must complete home learning tasks to support gap filling.</p> <p>Where directed, students must engage in correcting their cumulative assessments.</p> <p>Students have student-friendly QLA sheets after TA3 to inform their independent study.</p>					
When is this revisited?	All topics are revisited using skills checks, MethodMaths and home learning.					

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	Algebra, functions, coordinate geometry	Further algebra, vectors, differentiation, data presentation, kinematics	Trigonometry, forces & Newton's laws, probability	Probability, sampling, distributions, hypothesis testing, integration, exponentials and logs	Variable acceleration; revise all skills to date	Revise all skills to date, begin Year 13 skills of trigonometry and differentiation
How (type of assessment)?	Termly homework packs for each teacher.		In-class assessment using AS Level questions.	Termly homework packs for each teacher.		Full AS paper as end of year assessment
When?	Submitted by the end of each term.		Week 19	Submitted by the end of each term.		June/July (depending on work experience week)
What feedback is given?	Annotations on work, scores for each pack.		Annotations on paper plus a score for the exam.	Annotations on work, scores for each pack.		Annotations on paper plus a score and AS Level grade for the exam.
	Live feedback occurs in each lesson as the teacher monitors students' work. This feedback may be verbal or written as appropriate.					
What actions must take place for teachers?	Whole class feedback; revise key skills in Do Now tasks.					Whole class feedback; revise key skills in Do Now tasks. Individual feedback on gaps which must be filled before Year 13 begins.
What actions must take place for students ?	Begin individual revision informed by knowledge gaps.					Continue individual revision informed by knowledge gaps.
When is this revisited?	Through Do Now and independent study.					Through Do Now and independent study.

Note: Further Maths is taught mainly online and includes online assessments for each unit of work. This changes year on year depending on the class size.

MATHS Year 13

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
What powerful knowledge is being assessed?	Year 12 content	Year 12 content	Year 12 content plus Year 13 topics: Trigonometry Differentiation Functions Parametrics Further Algebra Sequences & Series Normal distribution Moments Forces	All content from both years except for Numerical Methods and Further Kinematics		
How (type of assessment)?	Low stakes – AS papers to be completed at home on a fortnightly basis.		Cut down A Level Paper to be completed in class.	Full A Level paper		
	Live feedback occurs in each lesson as the teacher monitors students' work. This feedback may be verbal or written as appropriate.					
When?	Every 2 week, alternating between Pure and Applied papers.		By Feb half term	Last week before Easter		
What feedback is given?	Papers are checked by staff for final numerical answers. Some comments may be added to papers as appropriate.		Marked by staff according to exam criteria. Comments added to solutions as needed.			
What actions must take place for teachers?	If a question is identified as a problem for the class, talk through this at the first opportunity in class. If this is a knowledge gap which may impact on Year 13 content, address it through retrieval starters or home learning.		Gap filling lessons/retrieval starters to reflect the issues identified by the papers.			
What actions must take place for students?	Use feedback and model solutions/markschemes to improve their work. Use independent learning time to fill knowledge gaps.		Corrections of their papers; independent revision of identified gaps.			
When is this revisited?	The next time this type of paper is issued, similar topics will be assessed.		Through starters.	Revision lessons in Term 5		

Note: Further Maths students are assessed formally at the same points as Maths students with cut-down papers. The topics covered vary each year depending on the lesson allocation.

Year 7

Year	Term	Unit	Knowledge (students learn)	Skills (students learn how to)
	1	Place Value		Ordering numbers Using < and > to compare numbers Rounding numbers
		Units of Measure	Conversions between metric measures	Accurate use of a ruler Reading scales
		Time	Units of time	Telling the time from analogue clocks Solving problems involving time
		Operations: adding & subtracting	Perimeter	Add and subtract integers and decimals (positive and negative) Check answers using estimation
	2	Angle Facts	<ul style="list-style-type: none"> - Angles - on a line - at a point - in a triangle in a quadrilateral	Definition and types of angles Accurate use of a protractor Solve problems involving angles <ul style="list-style-type: none"> - on a line - at a point - in a triangle in a quadrilateral
		Operations: Multiplying & dividing	Area formulae for: <ul style="list-style-type: none"> - rectangles - triangles - parallelograms 	Multiply and divide integers and decimals (positive and negative) Check answers using estimation Find the area of: <ul style="list-style-type: none"> - rectangles - triangles - parallelograms - compound shapes
		Types of Number	Identify multiples, factors and primes Square (up to 15×15) and cube numbers (up to 5^3) and related roots	Index notation for larger powers (Not laws of indices)
	3	Coordinates		Coordinates in all 4 quadrants Properties of 2D shapes Midpoint of two points
		Data Graphs		Pictograms

				Bar charts (including dual bar charts) Stem & Leaf diagrams
		Equivalence		Equivalence of fractions, decimals and percentages Equivalent fractions and mixed numbers
	4	Fractions		All four operations with fractions (including mixed numbers) Fractions of an amount
		Expressions		Collecting like terms Creating expressions from context Expanding single bracket expressions (including expand and simplify)
	5	Percentages		Percentage of an amount (with and without a calculator) Percentage increase and decrease Express A as a percentage of B
		Substitution	BIDMAS	Substitute into expressions Use simple formulae
		Averages	Mean, Median, Mode, Range from a list of data	
	6	Sequences		Continue sequences forwards and backwards including <ul style="list-style-type: none"> - arithmetic - non-linear - special sequences: square, triangle, powers Sequences from diagrams
		Equations		Solve one-step and two-step equations using inverse operations

Year 8

Year	Term	Unit	Knowledge (students learn)	Skills (students learn how to)
8	1	Fractions		Ordering fractions using equivalent forms Fractions of amounts in context Fractions in the context of area and perimeter
		Area and Perimeter	Formulae for area of: <ul style="list-style-type: none"> - Rectangle - Triangle - Parallelogram - trapezium 	Find the perimeter of polygons Find the area of shapes including rectangles, triangles, trapezia parallelograms
		Angle Reasoning	Recall angle facts for triangles, points and straight lines.	Solve angle problems involving vertically opposite angles and angles in parallel lines
	2	Types of Number	Factors and multiples	Express integers as the product of their prime factors Find the HCF and LCM of a pair of numbers
		Averages	Recall the median, mode, mean and range.	MMMR from frequency tables MMMR from data charts (bar charts and stem-and-leaf diagrams)
		Percentages		Use decimal multipliers to find the result of percentage increase or decrease Solve problems involving simple interest and compound interest.

		Probability	Probability scales	Calculate theoretical probability (fraction, decimal or percentage) Use two-way tables Use frequency trees
	3	Algebraic Graphs		Real life graphs Plotting linear graphs Properties of linear graphs
		Indices	Laws of indices	Laws of indices Negative indices Working with standard form (SIF)
		3D shapes	Properties of 3D shapes. Using formula for volume of a prism	Calculating volume of prisms
	4	Ratio		Writing ratio from context or diagram Simplifying ratios and finding equivalent ratios Sharing amounts in a ratio
		Expressions		Factorise single bracket expressions Expand and simplify single bracket expressions Expand and simplify expressions with double brackets
		Data Graphs		Draw and interpret pie charts and scatter diagrams
	5	Solving Equations		Solve equations involving brackets and/or fractions Solve equations with the

				unknown on both sides Construct and solve equations in context
		Sequences		Find the nth term for arithmetic sequences Work with Fibonacci style sequences
		3D Shapes Part 2	Use relevant formula.	Sketch nets of 3D shapes Calculate the surface area of prisms
	6	Scale Drawing		Accurately use ruler, compasses and protractor Map reading Bearings Estimate unfamiliar heights/distances using familiar objects
		Proportion		Unitary method for proportion Adjust recipes Solve best buy problems Convert between metric and imperial units of measure Solve speed, distance and time problems
		Transformations		Carry out and describe individual transformations in 2D: Reflections (including algebraic mirror lines) Rotations about a given centre Translations Enlargements by positive scale factors

Year 9

Year 9	Term	Unit	Knowledge (students learn)	Skills (students learn how to)
	1	Percentages		<ul style="list-style-type: none"> Use decimal multipliers to find the result of percentage increase or decrease Solve problems involving simple interest and/or compound interest. Calculate percentage profit or loss. Reverse percentage problems
		Expressions		<ul style="list-style-type: none"> Factorise single bracket expressions Expand and simplify single bracket expressions Expand and simplify expressions with double brackets Factorise quadratic expressions
		Solving equations		<ul style="list-style-type: none"> Solve equations involving brackets and/or fractions Solve equations with the unknown on both sides Solve quadratic equations by factorising Construct and solve equations in context
		2D/3D shape properties	<ul style="list-style-type: none"> Properties of 2D shapes including names/ lines of symmetry. Properties of 3D shapes Plans and Elevations 	<ul style="list-style-type: none"> Use properties of 2D shapes to solve problems with angles. Identify faces, vertices and edges of 2D and 3D shapes. Construct plans and elevations for a 3D shape.
	2	Angle reasoning	Angles in polygons - interior and exterior	Solve further angle problems involving <ul style="list-style-type: none"> vertically opposite angles angles in parallel lines
		Bearings	Understand what a bearing is.	<ul style="list-style-type: none"> Be able to draw and measure bearings. Solve problems with bearings at 2 or more points. Solving problems of scale within bearings.
		Inequalities		<ul style="list-style-type: none"> Recognise inequality symbols. Write an inequality represented by a number line. State integer solutions for an inequality. Solve inequalities with the unknown on one or both sides.
		Perimeter Area Volume (PAV)	Formulae for area of: <ul style="list-style-type: none"> Rectangle Triangle 	Find the perimeter of polygons Find the area of shapes including

			<ul style="list-style-type: none"> - Parallelogram - Trapezium - Circle <p>Circumference of circle</p> <p>Volume of prism</p>	<ul style="list-style-type: none"> • rectangles, triangles, parallelograms • trapezia • circles • compound shapes from the above <p>Calculating volume of prisms</p> <p>Calculate the surface area of prisms.</p> <ul style="list-style-type: none"> • (More able students) Find surface area of Cylinders <p>Find the Surface area of a 3D shape (prism) (incl compound)</p>
	3	Ratio and Proportion		<ul style="list-style-type: none"> • Writing ratio from context or diagram • Simplifying ratios and finding equivalent ratios • Sharing amounts in a ratio • Unitary method for proportion • Adjust recipes • Solve best buy problems • Convert between metric and imperial units of measure • Solve speed, distance and time problems
		Algebraic graphs		<ul style="list-style-type: none"> • Real life graphs • Plotting linear graphs • Properties of linear graphs including finding the gradients • (More able students) Write the equation of a line using 2 points • Write the equation of a line parallel to a given line
		Probability		<ul style="list-style-type: none"> • Probability scales • Calculate theoretical probability (fraction, decimal or percentage) • Use two-way tables • Use frequency trees • Use and complete tree diagrams • Use and complete Venn Diagrams • (More able students) Using/drawing tree diagram to find probabilities of successive independent events
	4	Construction and Loci		<ul style="list-style-type: none"> • Construct triangles and quadrilaterals using protractors / compasses • Construct perpendicular bisectors and angle bisectors
		Averages	Mean, median, mode range	<ul style="list-style-type: none"> • MMMR from sets of data • MMMR from frequency tables • MMMR from data charts (bar charts and stem-and-leaf diagrams)
		Data graphs		<ul style="list-style-type: none"> • Draw and interpret pie charts • Draw and interpret scatter diagrams • Draw a frequency polygon

				<ul style="list-style-type: none"> • (More able students) Understand the difference between correlation and causation • Draw frequency polygons • (More able students) Draw and interpret Box plots • Draw and interpret frequency diagrams.
	5	Indices and Roots	Laws of indices	<ul style="list-style-type: none"> • Laws of indices • Negative indices • Working with standard form
		Transformations	<ul style="list-style-type: none"> • Reflection • Translation • Rotation • Enlargement 	<ul style="list-style-type: none"> • Carry out and describe individual transformations in 2D: Reflections (including algebraic mirror lines) Rotations about a given centre Translations Enlargements by positive scale factors • (More able students) Enlargement by negative scale factors
		Sequences		<ul style="list-style-type: none"> • Find and use the nth term for arithmetic sequences • Use the nth term for quadratic sequences • Work with Fibonacci style sequences • (More able students) Find the nth term of a quadratic sequence
	6	Types of Number	Meaning of prime, factor, multiple	<ul style="list-style-type: none"> • List prime numbers • Find factors and multiples • Find HCF and LCM • Prime factor decomposition
		Rearranging formulae		<ul style="list-style-type: none"> • Rearrange linear formulae • Rearrange formulae with brackets, fractions, square roots • Rearrange with unknowns on both sides. • (More able students) Rearrange a formula including brackets, fractions and square roots • Make x the subject with more than 2 unknowns
		Pythagoras / Right angled trigonometry	Pythagoras theorem [Trigonometry formulae for right angled triangles]	<ul style="list-style-type: none"> • Use Pythagoras' Theorem to find a missing side in a right angled triangle • Use trigonometry to find a missing side of a right-angled triangle • Use trigonometry to find a missing angle of a right-angled triangle

Year 10

Year	Term	Unit	Knowledge (students learn)	Skills (students learn how to)
			Bold indicates topics which feature only on Higher tier.	
10	1	Expressions		Transform algebraic expressions by: <ul style="list-style-type: none"> - Simplifying - Expanding - Factorising - Simplifying algebraic fractions
		Pythagoras and Trigonometry	Pythagoras Theorem Trigonometry ratios for right-angled triangles	Find missing lengths using Pythagoras. Find missing lengths and angles using trigonometry.
		Indices & Standard Form	Laws of indices for multiplication, division and powers of powers. Meaning of negative and fractional powers. Standard Form.	Simplify a range of expressions using index laws. Evaluate using a range of powers. Solve equations using laws of indices. Write numbers in standard form; calculate in standard form.
		Fractions & Percentages		Solve a range of problems using fractions and percentages of amounts.
	2	Averages	Mean, median, mode, range	Calculate or estimate averages for lists of data or grouped data.
		Equations & Inequalities		Solve a range of linear and quadratic equations. Solve linear inequalities and represent solutions on number lines.
		Transformations		Reflect, rotate, translate and enlarge by positive and negative scale factors, including with a centre of enlargement.
		Ratio & Proportion		Solve a range of problems involving ratio and proportion. Write formulae for direct and inverse proportion problems.
	3	Angles	Angle facts from Key Stage 3. Circle Theorems.	Solve a range of problems involving angles (including angles in regular polygons). Solve problems involving circle theorems; prove the circle theorems.
		Statistical Graphs		Draw and interpret a range of statistical graphs, including cumulative frequency, box plots and histograms.
		Linear Graphs	Parallel and perpendicular gradients.	Plot and interpret graphs of linear functions. Use the properties of linear graphs to find equations of parallel of perpendicular lines.

	4	Indices, Roots and Surds	Laws of indices. Laws of surds.	Apply all previous skills. Simplify surd expressions including rationalising the denominator.
		Constructions and Loci		Use protractor, ruler and compasses to accurately construct shapes and loci.
		Rearranging formulae	Inverse operations.	Use appropriate techniques to change the subject of a formula.
		Simultaneous Equations		Use inverse operations to solve linear equations. Solve linear simultaneous equations; begin to solve simultaneous equations where one is quadratic.
	5	Number		Revise skills from previous work. Capture-recapture problem-solving. Solve problems involving upper and lower bounds.
		Probability	Probability scales. Set notation. AND rule for probability.	Solve a range of probability problems including use of probability trees, Venn diagrams, two-way tables and frequency trees.
		Perimeter, Area, Volume	Formulae for areas and perimeters of: <ul style="list-style-type: none"> - Rectangle - Triangle - Trapezium - Parallelogram - Circle - Sectors Formulae for volumes of <ul style="list-style-type: none"> - Cuboid - Prism - Pyramid - Sphere Scale factors for perimeter, area and volume of similar shapes.	Solve problems involving perimeter, area and volume at an appropriate level. Solve problems involving perimeter, area and volume of similar shapes.
	6	Non-linear graphs		Plot graphs of quadratic, cubic, reciprocal functions. Recognise the key features of these.
		Geometry	Trigonometry for non-right-angled triangles: <ul style="list-style-type: none"> - Sine rule - Cosine rule - Area of triangles 	Review geometry topics as required (identified from assessments). Use the sine rule, cosine rule and area of triangle formulae to solve problems.